

Bulkley (L.D.)

“Deficient Excretion From Kidneys not
Organically Diseased and Some of the
Diseases Peculiar to Women,” and
Diseases of the Skin.

*With the Compliments
of L. D. Bulkley M.D.*

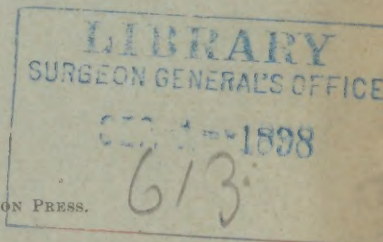
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BY L. DUNCAN BULKLEY, A.M., M.D.

PHYSICIAN TO THE NEW YORK SKIN AND CANCER HOSPITAL; CONSULTING
PHYSICIAN TO THE NEW YORK HOSPITAL, ETC.
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“DEFICIENT EXCRETION FROM KIDNEYS
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BY L. DUNCAN BULKLEY, A.M., M.D.

One year ago Dr. James H. Etheridge of Chicago, by invitation, made an address before this Society, the title of which was the first portion of that above given.¹ As there was no discussion except some remarks by the present writer it seemed best to present the matter again, with the author's full consent, in hopes that the important subject might receive further consideration from the members present, and that it might thus become doubly impressed on those likely to meet the cases referred to.

While the present writer disclaims all special knowledge in regard to diseases peculiar to women, he feels particularly interested in the subject which Dr. Etheridge so ably presented, for several reasons. Incidentally he has met many female patients, coming under treatment for various diseases of the skin, who were known to have also various uterine disorders of distressing character. Many of these patients had previously undergone prolonged and varied gynecologic treatment, often with unsatisfactory results. These uterine disorders he has seen improved and often quite recovered from, under lines of treatment directed for their skin difficulty, which quite coincided with those laid down by Dr. Etheridge, and without gynecologic treatment. He therefore begs to pre-

¹ Transactions of the Medical Society of the State of New York, 1896.

sent the subject again, as briefly and clearly as possible, urging the profession to recognize the principles and employ the methods laid down by the distinguished author of the paper alluded to.

Dr. Etheridge has kindly given permission to use in the freest manner possible the material presented by him, which will be done as far as necessary to make the matter clear and forceful.

"Toxic materials always reside within the human body. They constitute the waste products of living beings. From birth to death they battle for supremacy. So long as they are plentifully excreted, death is postponed. The skin, the pulmonary mucous membrane, the bowel and the kidney constitute the avenues of escape for all toxic materials from our bodies. If one of these emunctories be crippled the initiation of death is manifest. . . . The physician who busies himself with solving the problem of the initial departure from the proper performance of excretion enters a new field of labor. It is the most interesting one he can invade today. . . . Herein he deals with the beginning of disease." Such are the strong words with which Dr. Etheridge introduces his interesting and important study.

Prominent among the systemic derangements which tend to the impurification of the blood current, and the retention in the system of the waste products of animal life, undoubtedly stand imperfect kidney excretion; the elements composing the urine are known to be poisonous both to the individual forming them, and also to animals, when artificially introduced. Extirpation of both kidneys is very quickly followed by death; the gradual retention of these normally excreted poisons, by means of imperfect elimination from the kidneys, leads, as many have shown, to various forms of disorder and disease in many organs of the body.

Dr. Etheridge has rendered an inestimable service to the profession, and to suffering females, in earnestly calling attention to the fact, which I can confirm most positively, that this insufficient kidney secretion plays

a very important part in the production and continuance of many of the diseases peculiar to women. The study of the initiative cause of these diseases merits the most serious consideration of the profession.

How far the errors observed in the excretion from the kidneys pertains to the action of those organs alone, does not belong to our present discussion; nor how far the remedies used have for their action solely their influence on the kidneys. Undoubtedly the liver plays a very important share, as also the digestive organs, in rendering the ultimate process of removal of effete products imperfect. Suffice for the present that we discover in the kidney excretion the evidences of the imperfect removal of the waste and poisonous substances, and by means of the improved excretion from the kidneys we find the proof of their proper removal and consequent good health.

Recognizing that the proportion of the solids in the normal urine bears a certain ratio to a normal body weight, below a certain percentage of which they can not fall without indicating "renal insufficiency," Dr. Etheridge has given a table, prepared by an expert physiologist, which is here reproduced:

TABLE 1. Relation of body weight of healthy human beings to total daily excretion of urinary solids:

Weight.	Total urinary solids.
40 pounds.	392 grains.
50 "	479 "
60 "	563 "
70 "	639 "
80 "	716 "
90 "	789 "
100 "	854 "
110 "	916 "
120 "	974 "
130 "	1028 "
140 "	1078 "
150 "	1150 "
160 "	1198 "
170 "	1237 "
180 "	1260 "
190 "	1300 "
200 "	1330 "

As this table was constructed for healthy human beings, and takes into account exercise, Dr. Etheridge does not think that practically quite these amounts can be expected in women who come for treatment. It is to be remembered also that women always excrete less than men, perhaps one-tenth less. He would, therefore, from experience fix the limit at 500 grains for a woman weighing 90 pounds, and 1,100 grains for one weighing 180 pounds; from which data a scale can easily be constructed, as follows, for practical daily work:

TABLE 2.—Relation of body weight of women of average health to total daily excretion of urinary solids:

Weight.	Total urinary solids.
90 pounds	500 grains.
95 "	535 "
100 "	570 "
105 "	605 "
110 "	640 "
115 "	675 "
120 "	710 "
125 "	745 "
130 "	780 "
135 "	815 "
140 "	850 "
145 "	885 "
150 "	920 "
155 "	955 "
160 "	990 "
165 "	1025 "
170 "	1060 "
180 "	1100 "

This table is at the rate of about thirty-five grains additional for each five pounds of body weight, or seven grains to the pound, which is near enough for ordinary daily work. For greater accuracy there should be still some deduction for age; thus, between 40 and 50 years, deduct 10 per cent., between 50 and 60 deduct 20 per cent., and between 60 and 70 deduct 30 per cent. from the amounts above given.

It is not a very difficult matter to carry out the plan of learning the total daily excretion of solids, if it be rightly arranged; it is especially easy in regard to

women, as they are more apt to be at home and willing to attend to such matters. I have long had it done, daily in many instances, and in others at stated intervals. An ordinary two-quart mineral-water bottle is used, with a strip of paper pasted on the side for the scale. This is graduated by filling the bottle from a two-ounce measure and marking off each two ounces; the intervening ounce can be divided by the eye. Many druggists keep large bottles graduated for this purpose. A glass funnel is placed in the mouth of the bottle, by means of which all the urine can be poured into it as passed. The index is read off, the amount recorded and the bottle emptied at a fixed hour every day and a sample of the whole is sent to the office, with the statement of the total amount passed. From the specific gravity of the sample the total amount of solids passed in the day is easily estimated by Haines' modification of Haeser's method, as given by Dr. Etheridge; which is as follows: *Multiply the last two figures of the specific gravity of the urine by the number of ounces voided in twenty-four hours and add 10 per cent. to the product.* Thus, if the amount passed in twenty-four hours was 36 ounces and the specific gravity 1021, it would be $36 \times 21 = 756 + 10 \text{ per cent.} = 831$, the number of grains of solids in the whole amount. Compared with the table it can be readily estimated if this is above or below the normal amount of the body weight of the patient.

It will be noticed that this estimate is for the total solids of the urine and not for the urea alone; the tests for the latter are slow and laborious and while often extremely valuable are really not necessary here; for, under normal conditions the urea represents nearly one-half of the solid constituents of the urine, and so would be expected to vary with the total solids. It is to be remembered that our study is in regard to kidneys not organically diseased, and at present no reference is made to albumin in the urine or to sugar.

But, further, the toxicity of the urine does not

depend upon the urea alone. Etheridge states that "the coloring matter and other organic substances removed by charcoal filtration contribute at least one-half of the toxic power of the urine," and he attributes a considerable portion to the urinary salts of potassa.

It will be noticed, however, that very little has been said in regard to the actual quantity of the urine passed, representing the amount of water in it or the solubility of its constituents, a point hardly alluded to by the writer of the previous paper. The urinary water may vary so greatly from day to day, according to the amount of fluid drank and the activity of the secretion of the skin and respiratory organs, that it is in some ways of less importance than the actual solids of the urine, which represent the removal of the waste products of metabolism from the body. But, on the other hand, it is often immensely important and should always be known and appreciated. For even if the total amount of solids voided may be up to normal, there is still insufficiency of kidney action and consequent ill health if the proportion of water be not also about normal. A smaller amount of water, with higher specific gravity, and consequently containing a normal daily amount of urinary solids, does not conduce to the good health which a normal amount of urine with a lower gravity would indicate. Clinically this matter is often of the very greatest importance, and I could illustrate it by dozens of cases, did time and space permit.

Dr. Etheridge gives some very interesting cases illustrating the ill effects of renal inadequacy and their relief upon the employment of appropriate diuretic treatment, which I will very briefly quote before adding my own clinical statements and comments.

Case 1.—Mrs. C., multipara, had general metritis with deep double laceration of the cervix, with an obstinate bronchitis and profuse secretion; the severity of the cough increased the pelvic suffering and vesical irritability, also the profuse leucorrhea. Each winter she had been an invalid, submitting to very much gynecologic treatment, and had sought relief in warmer climates, where she was better, as also in summer; but

with advent of cold weather the bronchitis returned, aggravating all her other troubles. Finally it was found that she was passing only 298 grains of urinary solids, when 850 grains was her normal amount. Under stimulating diuretics, tonics and a laxative, the urinary solids were increased, in thirty days, to 950 grains, the cough had disappeared, though in mid-winter, and she was shortly in better condition than for many years.

Case 2.—Miss G., aged 23, had menstruated only five times in the previous year; she had backaches and headaches, circumpelvic pains, increased by exercise, an albuminous leucorrhea and great nervousness. The ascending colon was loaded with feces. She should have voided 850 grains of urinary solids daily, but was passing only 485. Under treatment of laxatives and diuretics the urinary solids were increased to over 1300 grains for a number of days, and regular menstruation returned. When, from neglect, there was again insufficiency of the solids in the urine, the amenorrhea returned, and a recurrence to diuretics again made her monthly sickness appear regularly.

Case 3.—Mrs. B., aged 36, the mother of three children and the victim of many abortions, complained of pelvic weight, general rachialgia, tender spine, pleurodynia in left chest, excessive nervousness and moderate metrorrhagia; she had a moderate metritis. She weighed 154 pounds and should have passed 900 grains of urinary solids daily, but was voiding only 480 grains. Her urinary solids were kept above 1000 grains daily for many weeks, and with local treatment and tonics she was cured in four months.

My own experience in regard to the value of diuretic treatment in many disorders peculiar to women dates back a good many years, and has come to me slowly though very convincingly. But I have always hesitated about reporting on the subject, because of my want of acquaintance with the actual condition of the pelvic organs, except from a report made by those who had previously seen the case or cases, aided by statements of the patient. But as I have gone on year after year, seeing and knowing of the vast improvement which occurred in my patients in regard to symptoms pointing to the pelvic organs of which they had complained, I have become more and more confident as to prospective results, when patients complained of uterine or other pelvic derangements.

When, therefore, Dr. Etheridge spoke with such

positiveness, I was pleased indeed to find my own experience verified by so distinguished an authority, and I felt justified in adding my testimony to the same facts, observed from quite a different portion of the medical field; for it need hardly be added that my cases came to me for various diseases of the skin, and not for uterine or female troubles.

The first case, which impressed me perhaps most forcibly of all, occurred at least fifteen years ago; the name of the patient has gone from me so that I can not look up the notes of the case, but the details are yet very vivid to my mind, for many reasons.

My patient was a girl of about 23, with one of the worst cases of indurated acne that I had seen, the cheeks and chin being dreadfully disfigured. She gave the history of very great uterine trouble, for which she had received an infinity of treatment for a number of years. She had profuse menorrhagia with very great pain. Her condition had become so bad that an elevator had been put in her house for her use, as she never could go up stairs. She drove to my office and, as it was on the second floor of a basement house, I saw her the first few times in the reception room on the ground floor.

For her acne I gave her first alkaline diuretics and laxatives, tonics, etc., with a regulated diet, and she responded well to treatment. I remember well my surprise when one day she walked up stairs to my office. I shortly persuaded her to take a little exercise, walking a block and gradually more, and, to be brief, by the time the treatment for the acne was completed she walked a mile to my house and had abandoned her elevator at home. She had had no gynecologic treatment in the meantime, and I do not think that I knew what condition existed in the pelvic organs. Simply in treating the condition I found on the face the general results followed, and this treatment was very decidedly in the line of a relief to insufficient kidney and bowel action.

It is hardly necessary to occupy time in relating

individual cases, and indeed it is difficult to make selections from the notes of several dozen cases now before me, there are so many which exhibit gains in the directions mentioned to a striking degree. It is really now of daily occurrence for me to see those who have suffered from many of the diseased conditions peculiar to women, become freed from them under treatment directed largely along the lines advocated by Dr. Etheridge, and given mainly on account of skin diseases for which they sought relief. And I may say that almost without exception such cases have exhibited insufficient kidney action, many of them, of course, being also complicated with constipation and primary or secondary indigestion.

In this way I have seen many patients with amenorrhea in varying degrees, in whom the menses have been thus established in a regular manner; but as in Dr. Etheridge's case, their trouble will often return when the treatment has been neglected for some time, and from one cause or another the insufficient action of the kidneys returns. We all know of many instances where the menstrual flow has been suddenly checked by chilling of the feet, and it is just the same accident which so often deranges kidney action. Irregularities of the menses, as to the interval and their duration, have also constantly been observed by me to disappear as the eliminative treatment necessary for the skin disease has gotten under full action. Excessive flowing has also been met with from time to time, which has been regulated by the same line of treatment.

But it is in dysmenorrhea that the largest number of most interesting cases are found, and of these I could give many very striking examples. It is not at all uncommon for me to learn from a patient that since she had been under treatment the monthly flow had become more regular and natural than for years previously. Many who have suffered so severely that even opiates were required with each monthly sickness, in order to make life endurable, have, when under full treatment, absolutely lost all pain and become even

unconscious as to when the menstrual epoch begins. And it has occasionally happened that a mother has brought a second daughter to me, not at all for the treatment of any skin disease, but solely for the relief of menstrual difficulties, because another daughter had found such benefit while under treatment for the skin.

My experience in a very considerable number of cases has also led me to the belief that many of the ills and discomforts complained of at the period of the menopause, and usually more or less accredited to this condition, as though dependent upon it, are in reality due to faulty elimination, principally by the kidneys. I could cite many many instances where attention to this element has resulted in the disappearance of the unpleasant symptoms in very brief time, while a neglect of the same would be followed by their recurrence, only to again disappear under exactly proper treatment.

I am quite aware that some of the statements I have made may seem exaggerated, and I may seem unwarranted in speaking thus positively in regard to matters outside of my chosen specialty. I can only assure you that I am speaking of what I have observed and know; for surely even the gynecologist can not know of the sufferings of patients except from their own statements; and I can verify the facts by many physicians who have seen cases with me. I may also say that in the local societies and to friends I have mentioned these ideas, and others have seen like good results in patients where this plan of treatment has been put in thorough practice.

It will be understood that in the cases referred to there has been no local or gynecologic treatment employed at the time, as I never in any way attempt such; nor have I generally known what, if any, local disorder or displacement existed, as I never make examinations in such cases, but send patients to gynecologists when special treatment is required.

I do not, however, wish to be misunderstood in regard to the matters of which I have spoken. I by no means

claim that care in regard to deficient urinary secretion will cure all the ills which woman is heir to. I most fully appreciate the need of the gynecologist, and recognize in the highest degree the splendid work which has been accomplished by them in the relief of suffering women. But from experience I know that many cases of uterine disorders can be relieved and indeed cured by full and adequate general medical treatment, including attention to and rectification of a faulty urinary secretion, which had too often been previously neglected. I can not do better than to close with a quotation of the final part of Dr. Etheridge's excellent paper.

"No intimation is here given that this is the most important factor in diseases of women. To set up such a claim would be most absurd. The aim of this article is solely to call attention to one line of treatment that has been all but universally neglected heretofore, and to invite observation and original investigations.

"There is the gravest reason for thinking that a very close relation, even that of cause and effect, exists between renal insufficiency and pelvic disorders. The developmental phase of the renal and generative organs constitutes that reason. Embryologically these two sets of important organs arise from the same source. The mesoblast in the ovum gives rise to the muscles, bones, circulatory and lymphatic systems, the urinary and generative organs. From this fact it becomes an easy matter to infer that derangements in one set of these organs can produce, in a reflex way, if you please, or at least are very frequently associated with, derangements of the other.

"Since observation shows the numerous cases of coexistence between renal insufficiency and neuralgias, mucous membrane disorders and serous membrane inflammations, one can not question the possibility of this insufficiency producing or permitting amenorrheas, dysmenorrheas, leucorrhoeas and attacks of pelvic peritonitis. It is strongly emphasized that

the position is not assumed that all cases of these disorders are produced by renal insufficiency, but from the fact that many of them are relieved by including in the treatment remedies that increase the urinary solids, the conclusion can not be resisted that cause and effect actually exist between many of them and the deficiency of urinary ingredients."

4 East 37th Street.

